

INVENTORY CONTROL

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Abstract

A novel encoding system, compositions for use therein and methods for determining the source, location and/or identity of a particular item or component of interest is provided. In particular, the present invention utilizes a collection of one or more sizes of populations of semiconductor nanocrystals having characteristic spectral emissions, to "track" the source or location of an item of interest or to identify a particular item of interest. The semiconductor nanocrystals used in the inventive compositions can be selected to emit a desired wavelength to produce a characteristic spectral emission in narrow spectral widths, and with a symmetric, nearly Gaussian line shape, by changing the composition and size of the semiconductor nanocrystal. Additionally, the intensity of the emission at a particular characteristic wavelength can also be varied, thus enabling the use of binary or higher order encoding schemes.